

REMARKS

Claims 1, 3-19, 21-41, 44-55, and 63-66 are pending. Claims 64 and 65 remain withdrawn from consideration, whereas Claims 1, 3-19, 21-41, 44-45, and 63-66 are rejected under 35 U.S.C. §103(a) over the combination of Hallikainen, et al., U.S. Patent No. 5,797,102, Anderson, et al., U.S. Patent No. 7,283,635, and Michel, et al., U.S. Patent No. 5,764,512. Claim 14 is rejected under §103(a) over that combination of references plus Helms, U.S. Patent No. 5,561,710.

Claim 21 was objected to.

Claim Objections

Claim 21 was objected to with respect to its dependency. Claim 21 has thus been amended as helpfully suggested. The Objection is now moot.

Rejections Under 35 U.S.C. §103(a)

In the most recent Office Action, the Examiner has responded to Arguments made in the Response to the last Office Action in the case. In doing so, the Examiner indicates that he has interpreted bi-directional voice capabilities in a very broad sense, as simply meaning that voice and/or audio signals are capable of being transmitted and received. However, in the present Application and pending claims, such a limitation

is directed to the speech and speech recognition functionality of the invention within a speech or voice-directed environment. As such, Applicants further amend and clarify the claims in this Response in order to address the Examiner's broad interpretation, and to more clearly set forth the invention.

As set forth in the Background Section of the present Application, the issues associated with a voice-driven system are discussed. In particular, one of the issues addressed by the present invention within such a voice-driven system, is the uniqueness of the voice and speech of each user. An apparatus or terminal that is utilized in a voice-driven system by a particular user must be trained by that user to operate properly with a user's voice and speech. As such, to train the terminal, the user has to traverse through a series of complex and cumbersome menu options to select the desired configuration, and to otherwise train the terminal so that the terminal and speech recognition capabilities thereof are responsive to that particular user. Not only is such a training exercise time-consuming and inefficient, but the exercise is also error prone. Furthermore, because a single terminal might be utilized by multiple users, when a terminal is used by another worker or user on a different shift, it will then have to be configured, or rather re-configured, for that particular worker. This results in further inefficiencies.

The present invention is directed to addressing such drawbacks in the prior art. Specifically, as recited in Claim 1 and the other independent claims that are pending pursuant to this Response, the bi-directional voice capabilities of a terminal or other apparatus include “a user dependent speech recognition functionality for converting user speech to a digital format, and a text-to-speech functionality for converting data in a digital format into audio signals to be played to a user”. As such, the bi-directional voice capability limitations set forth in each of the independent claims is not simply transmission and reception of audio signals. Rather, they are directed to speech recognition and its associated text-to-speech functionality. In order to avoid the interpretation as set forth by the Examiner, the specific language defines the invention within the speech recognition, or voice-driven context.

Applicants note that none of the cited references of Hallikainen, et al., Anderson, et al., or Michel, et al. discuss or suggest an apparatus with such features. That is, there is absolutely no teaching in the cited art with respect to a bi-directional voice capability, as claimed.

The independent claims further recite that the characterizing signal provided to a terminal from a peripheral device, or other device coupled to the terminal, is associated with a particular user. Furthermore, the independent claims recite that a terminal is configured for receiving the characterizing signal for a particular user, and then configuring the bi-

directional voice capabilities using one or more user-specific operational parameters. The operational parameters include at least one of voice templates for speech recognition and text-to-speech references for the user. Such operational parameters are thus directed to the bi-directional voice capabilities of the terminal. In that way, in one embodiment of the invention, a terminal might be properly configured for a particular user simply by coupling a peripheral device with the terminal. Then, in accordance with one aspect of the invention, user-specific operational parameters that affect the bi-directional voice capabilities of the terminal are utilized by the terminal so that speech recognition is tailored for a specific user, or the text-to-speech references are tailored to that user, or both. In that way, the time associated with training a speech recognition terminal utilizing a voice-driven system is reduced, as are the possibilities of errors. Furthermore, not only does one particular user not have to train a terminal, but then the next subsequent user merely has to couple their specific peripheral device to the terminal, to essentially re-train or re-configured the terminal, for their voice templates and/or text-to-speech preferences.

As noted above, the combination of the three prior art references set forth in the Office Action does not provide any teaching with respect to such features as now claimed. More specifically, the Hallikainen, et al. base reference teaches a mobile phone, wherein an auxiliary device may

be coupled to the mobile phone, and amplification parameters might be adapted in the mobile phone. There is no teaching whatsoever with respect to terminals having bi-directional voice capabilities that include user-dependent speech recognition functionalities and text-to-speech functionalities. Furthermore, the information provided to the mobile phone of Hallikainen, et al. by the auxiliary device has no relation whatsoever with respect to a particular user, nor to voice templates and/or text-to-speech preferences for a particular user. Thus, the Hallikainen, et al. reference does not render obvious Claim 1, either alone, or in combination with the other references.

Specifically, the Anderson, et al. and Michel, et al. references are cited by the Examiner with respect to the claim limitations regarding forwarding a characterizing signal on at least one audio line. Neither Anderson, et al. nor Michel, et al. teaches the concept of configuring the speech recognition functionalities and text-to-speech functionalities of a terminal through the use of voice templates or text-to-speech preferences of a user based upon a characterizing signal forwarded to the peripheral device, wherein the characterizing signal is for a specific user or speaker. As may be appreciated, a speech recognition functionality and its various operational parameters are significantly different from generic performance criteria, such as volume levels. Rather, a particular voice

template of a user will determine how a speech recognition engine works, and whether it will work at all. A speech recognition engine not trained for a particular user may not be particularly accurate or useful.

As such, Applicants submit that the present invention, as recited in the claims, is not rendered obvious by the three references Hallikainen, et al., Anderson, et al., and Michel, et al. Those three references, taken as a whole, would not teach a person of ordinary skill in the art the features of the invention, as recited in the claims, such that the invention would be obvious under 35 U.S.C. § 103(a).

Claim 1 recites an apparatus with limitations as set forth above, wherein the bi-directional voice capabilities include user-dependent speech recognition functionality and text-to-speech functionality. Furthermore, that claim recites that a characterizing signal for a particular user is forwarded to the terminal. The claims also recite that the characterizing signal is associated with one or more user-specific operational parameters that include at least one of voice templates for speech recognition and text-to-speech preferences for that user. As such, Claim 1 is in an allowable form, as it would not be rendered obvious by the cited prior art. Dependent Claims 3-6, 8-16, and 18 each depend from Claim 1, and would be allowable for that reason. Furthermore, each of those dependent Claims recites a unique combination of elements, which is not rendered obvious by the cited prior art. Claims 7 and 17 are cancelled.

Claim 19 has been amended along the lines of Claim 1, and thus would be allowable for the same reasons as noted above. Dependent Claims 21-23 and 25-28 each depend from Claim 19, and would be allowable for that reason. Furthermore, each of those claims recites a unique combination of elements, which would not be rendered obvious by the cited prior art. Claim 24 is cancelled.

Claim 29 recites a peripheral device for use with a terminal having bi-directional voice capabilities that include speech recognition functionalities and text-to-speech functionalities. The peripheral device of Claim 29 includes circuitry that is configured for having ID information regarding a specific user, wherein the circuitry is further configured to forward a characterizing signal as reflective of the ID information on an audio signal line to a terminal. The characterizing signal of the peripheral device is associate with one or more user-specific operational parameters of the terminal that include at least one of voice templates for speech recognition and text-to-speech preferences for the user for configuring the bi-directional voice capabilities of the terminal. For the reasons discussed above, the peripheral recited in Claim 29 would also not be rendered obvious under 35 U.S.C. § 103(a) by the cited prior art. Claim 30 is cancelled. Claims 31-39 each depend from Claim 29, and would be allowable for that reason. Furthermore, each of those claims recites unique combinations of elements, which would not be rendered obvious by the present invention.

Independent Claim 40 recites a method claim along the lines of Claim 1. Therefore, Claim 40 would also be allowable over the cited art, based on the Arguments set forth above with respect to Claim 1. Dependent Claims 41, 44-46, and 48-54 each depend from Claim 40, and would be allowable for that reason. Furthermore, each of those claims recites a unique combination of process or method steps, which would not be rendered obvious by the present invention. Claim 47 is cancelled.

Claim 63 is an apparatus claim that also recites a terminal along the lines of the terminal recited in Claim 19. The terminal of Claim 63 recites circuitry for providing a bi-directional voice capability, including a user-dependent speech recognition functionality, and a text-to-speech functionality. Claim 63 further recites circuitry configured to read a characterizing parameter from a peripheral device, wherein the characterizing parameter is associated with a particular user and with one or more voice-related operational parameters. The operational circuitry is further configured to associate the one or more voice-related operational parameters with the characterizing parameter from the peripheral device, and then to make the terminal operate according to the one or more voice-related operational parameters, including at least one of voice templates and text-to-speech preferences for a user. For the reasons noted above with respect to the cited art, Claim 63 would not be rendered obvious by that art, and thus would be allowable. Claim 66 depends from Claim 63,

and would be allowable for the same reason, in addition to the fact that it recites a unique combination of elements not rendered obvious by the cited art.

Claim 14 is rejected under 35 U.S.C. § 103(a) as obvious over Hallikainen, et al., Anderson, et al., and Michel, et al., as further combined with Helms. As the Helms reference is only recited to for use of a battery in a peripheral device, and provides no other teaching with respect to those elements not found in the base three references, a combination of Helms into a four-reference combination would not render obvious any of the independent claims, and certainly not Claim 14, which depends from Claim 1. Thus, Claim 14 is allowable over the cited art.

Accordingly, Applicants submit that all the pending claims define over the cited art of record. Thus, those claims are in an allowable form. Applicants respectfully request an indication of the allowability of those claims at the Examiner's earliest convenience. If any issues remain in the case, which might be handled in an expedited fashion, such as through an Examiner's Amendment, the Examiner is encouraged to telephone Applicants' undersigned representative.

Applicants do not believe that any fees are due in connection with this response. However, if any fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to deposit account 23-3000.

Respectfully submitted,

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